# AR Solutions in Action

**CDC's Investments to Combat Antibiotic Resistance Threats** 

FISCAL YEAR 2018

OHIO \$2,201,680



Fiscal Year 2018

**Funding for AR Activities** 

## **FUNDING TO STATE HEALTH DEPARTMENTS**



RAPID DETECTION AND RESPONSE to novel or high-concern drug-resistant germs is critical to contain the spread of these infections.

\$347,309

With 2017 funding, Ohio conducted outreach about a new requirement for reporting "nightmare bacteria" CRE to healthcare and public health partners, resulting in the identification of 37 KPC CRE and 1 NDM (enzymes that can make powerful antibiotics ineffective).



HAI/AR PREVENTION works best when public health and healthcare facilities partner together to implement targeted, coordinated strategies to stop infections and improve antibiotic use.

With 2017 funding, Ohio enhanced prevention efforts by responding to infection control breach notifications with infection control assessments in three facilities, resulting in the facilities' development of specific and actionable plans to address infection control gaps.



FOOD SAFETY projects protect communities by rapidly identifying drug-resistant foodborne bacteria to stop and solve outbreaks and improve prevention.

Ohio uses whole genome sequencing to track and monitor local outbreaks of *Listeria*, *Salmonella*, *Campylobacter*, and *E. coli* and uploads sequence data into PulseNet for nationwide monitoring of outbreaks and trends. In Fiscal Year 2019, Ohio will begin simultaneously monitoring these isolates for resistance genes. When outbreaks are detected, local CDC-supported epidemiologists investigate the cases to stop spread.



GONORRHEA RAPID DETECTION & RESPONSE works with state and local epidemiology and laboratory partners to test for and quickly respond to resistant gonorrhea to stop its spread in high-risk communities. Only one treatment option remains for gonorrhea and resistance continues to grow.

To help inform national treatment guidelines for gonorrhea, Ohio participates in the Gonococcal Isolate Surveillance Project (GISP), testing how well antibiotics work on laboratory samples from sentinel STD clinics, which are often the first to detect the threat. Select STD clinics in Ohio also collect additional samples, including from women and from extragenital sites, to further enhance surveillance for antibiotic resistant gonorrhea.



AR: antibiotic resistance HAI: healthcare-associated infection

U.S. Department of



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FISCAL YEAR 2018

OHIO AR Investments (cont.)

## **FUNDING TO UNIVERSITIES & HEALTHCARE PARTNERS**



#### CLEVELAND VA MEDICAL RESEARCH AND EDUCATION FOUNDATION: Innovative Prevention & Tracking

This study will identify routes by which germs spread and examine the effectiveness of different barrier precautions to prevent the spread of healthcare-associated infections from patient to patient.



#### THE OHIO STATE UNIVERSITY: Discovering & Implementing What Works

Researchers will assess the effectiveness of cleaning and disinfection methods to prevent the transmission of *Salmonella* Heidelberg through the dairy calf production chain. Researchers will develop and disseminate educational materials on cleaning and disinfection to livestock markets and veal calf production facilities to reduce the spread of *Salmonella* Heidelberg.



### THE OHIO STATE UNIVERSITY: Innovative Prevention & Tracking

Researchers will establish field plots of tomatoes and treat these plots with organic fertilizers, herbicides, and antibiotics. Following these treatments, samples from the plots will be analyzed to determine the kinds of antibiotic-resistant bacteria and genes that are present in these environments.



#### THE OHIO STATE UNIVERSITY: Discovering & Implementing What Works

Ohio State University will partner with calf producers to assess the impact of a farm antibiotic stewardship plan on the quantity of antibiotics used for disease treatment. The study will also measure changes in the presence and diversity of antibiotic-resistant genes in the environment before and after implementation of the stewardship plan.



### THE OHIO STATE UNIVERSITY: Global Expertise & Capacity Enhancements

CDC's global work to combat AR prevents the importation of AR threats into the United States. Experts are working in Ethiopia to combat AR by conducting standardized lab assessments and improving local capacity to detect and prevent AR threats.

Page 2 of 2 This data represents CDC's largest funding categories for AR. It shows extramural funding that supports AR activities from multiple funding lines.

AR: antibiotic resistance HAI: healthcare-associated infection

